

REMARKS/ARGUMENTS

In the Office action dated May 4, 2007, claims 1 – 7, 16 – 19, and 24 – 27 were rejected. In response, Applicants have added claims 28 – 33. Applicants hereby request reconsideration of the claims in view of the added claims and the below-provided
5 remarks.

Claims 1 – 7, 16 – 19, and 24 – 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ash et al. (U.S. Pat. No. 6,778,535, hereinafter Ash) further in view of Seddigh et al. (U.S. Pat. No. 6,973,035, hereinafter Seddigh).

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Claim 1

Claim 1 recites:

“A method comprising:
routing a set-up message to a plurality of nodes in at least one
15 transport network, wherein said set-up message reserves network
resources for a plurality of ***different traffic paths through said at least one transport network*** as said set-up message visits each of said plurality of nodes; and
routing said set-up message to said plurality of nodes in said
20 transport network, wherein said set-up message provisions said reserved network resources for said plurality of different traffic paths through said at least one transport network as said set-up message revisits each of said plurality of nodes;
25 ***wherein the reserved network resources for said plurality of different traffic paths through said at least one transport network are provisioned only if all of the resources needed for each traffic path of the plurality of different traffic paths through said at least one transport network have been successfully reserved.***”

30 Claim 1 is rejected under the logic that Ash teaches all of the limitations of claim 1 except for the limitation of provisioning reserved network resources only if all of the resources needed for the plurality of different traffic paths through said at least one transport network have been successfully reserved. Seddigh is cited for teaching the above-cited limitation. Applicants assert that claim 1 is not obvious from Ash in view of
35 Seddigh for the following reasons:

Ash does not teach or suggest "reserving" network resources

Ash is cited for teaching a set-up message that reserves network resources.

Applicants assert that Ash does not teach or suggest reserving network resources as recited in claim 1. Ash teaches finding a shortest path and checking to see if the path has available resources. For example, Ash teaches "a check is then made whether each link in the path has available bandwidth" col. 2, lines 6 – 7 and "a check is made for available bandwidth," col. 3, lines 11 – 12. Although Ash teaches "checking" whether a path has available bandwidth, Ash does not teach reserving the available resources. The act of checking for available resources is not equivalent to the act of reserving available resources, i.e., checking for available resources in no way sets aside available resources for later use. If Ash finds that available bandwidth exists on the path, then the call is allocated (i.e., provisioned) to the path, col. 3, lines 15 – 16. In sum, while Ash teaches checking for available bandwidth and then provisioning a path if the resources are available, Ash does not teach or suggest reserving resources if the check indicates that the resources are available. Simply put, Ash teaches checking and then provisioning while claim 1 recites reserving and then provisioning.

Ash teaches away from provisioning the reserved resources for said plurality of different traffic paths through said at least one transport network only if all of the resources needed for each traffic path of the plurality of different traffic paths through said at least one transport network have been successfully reserved

Claim 1 recites in part "wherein the reserved network resources for said plurality of different traffic paths through said at least one transport network are provisioned only if all of the resources needed for each traffic path of the plurality of different traffic paths through said at least one transport network have been successfully reserved." That is, all of the resources needed for each of the different traffic paths through a transport network must be successfully reserved before the resources for the respective paths are provisioned.

In contrast to claim 1, Ash teaches provisioning resources for only one path through a transport network (e.g., path A or path B, Fig. 2). In particular, Ash teaches provisioning resources for the first path that possesses sufficient resources. As taught by

Ash, if the resources for a first path (e.g., path A) cannot be provisioned, then the resources of a second path (e.g., path B) are checked. If the resources for the second path (e.g., path B) cannot be provisioned, then the resources of a third path (e.g., path C, Fig. 3) are checked. This path-by-path process continues until one of the paths is provisioned. Once one of the paths is provisioned, the provisioning process ends. In particular, at col. 3, lines 26 – 32, Ash teaches:

“As seen in FIG. 2, the shortest multi hop path is selected, which as seen in FIG. 2 comprises path A that passes through via nodes 6 and 5 before reaching destination node 4. Having selected Path A, the origin node checks whether available bandwidth exists for the Class-of-Service of the call on the link from node 1 to node 6. If so, then node 6 looks for available bandwidth on the link to node 5 in a similar manner. In turn, via node 5 looks for available bandwidth on the link to the destination node 4 in a similar manner. The search depth passes from each node to a successive downstream path in the set-up message. If any node along the selected path ascertains that an intermediate link, for example, the link between nodes 5 and 4, lacks sufficient bandwidth, then a crankback is sent back to the originating node 1 to select another path. The originating node 1 then selects the next shortest path, say path B in FIG. 2, and repeats the above-described process.” (emphasis added)

And at col. 3, lines 33 – 44, Ash teaches:

“FIG. 3 illustrates the path selection process in somewhat more detail. As discussed earlier, when node 1 receives a call destined for node 4, node 1 searches for the shortest path. Assuming that paths A and B are the shortest (each having an administrative weight of one), the originating node will select a path (e.g., path A) for example in fixed order, sequentially in terms of subsequent paths. Thus, the originating node will pick path A, but if any link lacks sufficient bandwidth, then the originating node 1 selects path B. If any link in path B lacks sufficient bandwidth, then the originating node 1 selects path C and so on. Between paths that are of equal length, the path having the lowest administrative weight is selected.” (emphasis added)

That is, Ash teaches provisioning resources for the first path that possesses sufficient resources. As a path is being examined, there is no consideration given as to the resource availability of the other possible paths. In other words, if the path that is being examined possesses sufficient resources, then the path is provisioned regardless of whether or not other paths have sufficient resources. This path provisioning process as taught by Ash is

in direct contrast to, and therefore teaches away from, the above-identified limitation of claim 1.

As stated above, claim 1 recites "wherein the reserved network resources for said plurality of different traffic paths through said at least one transport network are provisioned only if all of the resources needed for each traffic path of the plurality of different traffic paths through said at least one transport network have been successfully reserved." That is, all of the resources needed for each of the different traffic paths through a transport network must be successfully reserved before the resources are provisioned. Ash teaches a path provisioning decision that is dependent on the resource availability of a single path through a network while claim 1 recites a path provisioning decision that is dependent on the resource availability of multiple different paths through a network. Because Ash teaches away from the above-identified limitation of claim 1, Applicants assert that a *prima facie* case of obvious has not been established.

Ash does not teach or suggest a set-up message that provisions reserved resources as the set-up message revisits nodes

Claim 1 recites in part that the "set-up message provisions said reserved network resources for said plurality of different traffic paths through said at least one transport network as said set-up message revisits each of said plurality of nodes." That is, the set-up message provisions traffic path as it revisits nodes.

In contrast to claim 1, Ash teaches that a "crankback message" is sent back to the originating node in the case where sufficient network resources are not available on the instant path and as such cannot be provisioned. At col. 3, lines 26 - 31, Ash teaches:

"If any node along the selected path ascertains that an intermediate link, for example, the link between nodes 5 and 4, lacks sufficient bandwidth, then a crankback is sent back to the originating node 1 to select another path. The originating node 1 then selects the next shortest path, say path B in Fig. 2, and repeats the above-described process."

At col. 5, lines 35 - 53, Ash again teaches that the crankback message is used in the case where network resources are not available and as such cannot be provisioned.

In sum, claim 1 recites that a set-up message provisions reserved resources as the set-up message revisits nodes while Ash teaches that a crankback message is sent back to an originating node in the case where resources cannot be provisioned. Because claim 1 recites a message that revisits nodes to provision resources while Ash teaches a message that revisits nodes only when resources cannot be provisioned, Applicants assert that a *prima facie* case of obviousness has not been established.

Seddigh does not teach or suggest provisioning the reserved resources for said plurality of different traffic paths through said at least one transport network only if all of the resources needed for each traffic path of the plurality of different traffic paths through said at least one transport network have been successfully reserved

Claim 1 recites in part "wherein the reserved network resources for said plurality of different traffic paths through said at least one transport network are provisioned only if all of the resources needed for each traffic path of the plurality of *different* traffic paths *through* said at least one transport network have been successfully reserved." That is, all of the resources needed for *each of multiple different traffic paths through a transport network* must be successfully reserved before the resources are provisioned.

In contrast to claim 1, Seddigh teaches how to reserve resources for only a single path through a network. Although the connection is a two-way connection, Seddigh teaches that the resources are reserved for only a single path through a network, in particular, the path between the sender (310) and the receiver (320), see Fig. 3. As illustrated in Fig. 3 of Seddigh, the single path through a network between the sender (310) and the receiver (320) runs through devices $E_1 - E_n$. Because Seddigh is only concerned with one path through the network (the path between the sender (310) and the receiver (320)), the limitation of provisioning resources only if all of the resources *for each of multiple different paths through a transport network* were successfully reserved is not applicable to Seddigh.

Further, in the Office action, it appears that the Examiner is broadly interpreting the connection between the sender (310) and the receiver (320) (which runs through devices $E_1 - E_n$ in Fig. 3 of Seddigh) as consisting of multiple different traffic paths. Even if the connection between the sender (310) and the receiver (320) (which runs

through devices $E_1 - E_8$ in Fig. 3 of Seddigh) is interpreted as consisting of multiple different traffic paths, none of the multiple different traffic paths runs "through said at least one transport network" as recited in claim 1. Specifically, the link between the sender (310) and device E_1 may be considered a traffic path, but the link between the sender (310) and device E_1 does not run "through" the network of Fig. 3. Likewise the link between devices E_1 and E_2 may be considered a traffic path, but the link between devices E_1 and E_2 does not run "through" the network of Fig. 3, and so on. Because claim 1 recites "different traffic paths through said at least one transport network" while Seddigh teaches multiple different traffic paths, none of which runs through the network, Seddigh does not teach or suggest the limitation of claim 1 as alleged in the Office action.

The combination of Ash and Seddigh does not teach or suggest provisioning the reserved resources for said plurality of different traffic paths through said at least one transport network only if all of the resources needed for each traffic path of the plurality of different traffic paths through said at least one transport network have been successfully reserved as recited in claim 1

In conclusion, both Ash and Seddigh relate to provisioning resources for a single path through a network, for example, the path between the origin and the destination (as taught by Ash) or the path between the sender and the receiver (as taught by Seddigh). In contrast to Ash and Seddigh, claim 1 is specific to provisioning resources for each traffic path of a plurality of different paths through a network only if all of the necessary resources for each different traffic path have been previously reserved. For the above cited reasons, Applicants assert that the combination of Ash and Seddigh does not teach or suggest ever claim limitation and therefore a *prima facie* case of obviousness has not been established.

Claims 2 - 7

Because claims 2 through 7 depend on claim 1, the Applicants respectfully submit that these claims are allowable based on an allowable claim 1.

Claims 16 – 19

Independent claim 16 includes similar limitations to claim 1. Because of the similarities between claims 1 and 16 Applicants assert that the remarks provided above with respect to claim 1 apply also to claim 16. Because claims 17 through 19 depend on claim 16, the Applicants respectfully submit that these claims are allowable based on an allowable claim 16.

Claims 24 – 27

Independent claim 24 includes similar limitations to claim 1. Because of the similarities between claims 1 and 24 Applicants assert that the remarks provided above with respect to claim 1 apply also to claim 24. Because claims 25 through 27 depend on claim 24, the Applicants respectfully submit that these claims are allowable based on an allowable claim 24.

New Claims 28 – 33

New claims 28, 30, and 32 recite “wherein each different traffic path through said at least one transport network is a multi-hop path that comprises a different set of nodes” and new claims 29, 31, and 33 recite “wherein at least two of the different traffic paths through said at least one transport network connect the same two nodes via different sets of intermediate nodes.” New claims 28 – 33 are supported in the Applicants’ specification at, for example, page 7, lines 8 – 17 and Fig. 6, wherein different paths through the transport network are described. Applicants assert that these claims are not rendered obvious from Ash in view of Seddigh because Seddigh does not teach or suggest “wherein the reserved network resources for said plurality of *different traffic paths* through said at least one transport network are provisioned only if all of the resources needed for each traffic path of the plurality of *different traffic paths* through said at least one transport network have been successfully reserved” wherein the different traffic paths include the limitations as specified in these claims.

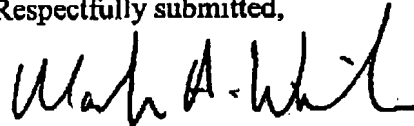
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Applicants respectfully request reconsideration of the claims in view of the amended claims and the remarks made herein. A notice of allowance is earnestly solicited.

- 5 At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account **50-3444** pursuant to 37 C.F.R. 1.25. Additionally, please charge any fees to Deposit Account **50-3444** under 37 C.F.R. 1.16, 1.17, 1.19, 1.20 and 1.21.

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Respectfully submitted,



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